

MASSACHUSETTS

Aquaculture GIS—2001, 2002

This project demonstrates how geographic information systems (GIS) and spatial modeling can be applied to marine aquaculture site analysis. The initial phase of the project focused on developing data and tools for aquaculture siting. State and federal “georegulations” were created to use GIS to display the locations of jurisdictional or regulatory boundaries relevant to aquaculture. A customized tool also allows users to access legislative summaries, contact information, forms, and fee structures that apply within these regions. The project also created a statewide shellfish habitat suitability data layer that will be used to expedite the aquaculture permitting process in Massachusetts, and it created a detailed report documenting potential applications of GIS technology for the aquaculture community.

Atlantic Coast, Benthic Data—1996

www.csc.noaa.gov/crs/bhm/mass.html

The Center partnered with the Wetlands Conservancy branch of the Massachusetts Department of Environmental Protection and the Massachusetts Coastal Zone Management Program to create a composite baseline map of submerged aquatic vegetation (SAV) in 1996. The data are being used primarily for shellfish lease management and dredge and fill permit evaluation.

Beach Nourishment on the Atlantic and Gulf Coasts of the U.S.—2002, 2003

This project helps state and local governments along the Atlantic and Gulf coasts of the U.S. make informed decisions about the nourishment of beaches by consolidating the best scientific and technical information and tools for evaluating and understanding beach nourishment into one source. This resource is a user-friendly Web site that includes relevant information and tools from the fields of coastal geology, engineering, economics, law and policy, and the biological sciences.

Cape Cod SAV Change Detection—1999, 2001

www.csc.noaa.gov/crs/bhm/mass_aps.html

The Center partnered with the Wetlands Conservancy branch of the Massachusetts Department of Environmental Protection to document changes in submerged aquatic vegetation (SAV) along Cape Cod between 1996 and 2000.

Coastal Management Fellowship—1996 to 1998

www.csc.noaa.gov/cms/1996Fellows.html

A Coastal Management Fellow worked with the Massachusetts Coastal Zone Management Agency to develop a database on habitat and species restoration projects in the Gulf of Maine. The database was developed to create an information exchange vehicle for managers, scientists, and consultants, and to document past, present, and potential restoration projects.

Coastal Management Fellowship—1998 to 2000

www.csc.noaa.gov/cms/fellow98.html

A Coastal Management Fellow worked with the Massachusetts Coastal Zone Management Program to develop an adaptive special area management planning model for the Parker River/Essex Bay coastal Area of Critical Environment Control. This was accomplished by the development of regional planning strategies and by increasing local support through public participation.

Coastal Management Fellowship—2000 to 2002

www.csc.noaa.gov/cms/00_fellows.html

A Coastal Management Fellow worked with the Massachusetts Coastal Zone Management Program on a project entitled “Management of Environment Impacts of Personal Watercraft: Pleasant Bay, Cape Cod, Pilot Project.” The purpose of the project was to develop sound and scientifically based resource policy to effectively manage personal watercraft use in Massachusetts’ coastal waters.

Coastal Management Fellowship—2002 to 2004

www.csc.noaa.gov/cms/fellows/02_fellows.html

A Coastal Management Fellow is working with the Massachusetts Office of Coastal Zone Management on a project entitled "Marine Habitat Mapping Strategy." The goal of the project is to link resource managers with marine habitat data to help develop coastal management policies and incorporate them into regulatory decisions. The fellow is developing a coordinated and comprehensive strategy for seafloor characterization and mapping in Massachusetts' waters and is providing coastal resource managers with tools and information necessary to use seafloor characterization data to improve management of marine habitat.

Coastal Structures Inventory of Cape Cod—2002, 2003

The Center is helping to develop a georeferenced, pre-storm inventory of structures on the coast to improve state and local governments' ability to make rapid and accurate storm-related permitting decisions. The project provides a comprehensive storm-planning and response system and includes tools for viewing photographs and information on coastal structures. The system builds on the Massachusetts Ocean Resource Information System and is modeled after the South Carolina Office of Ocean and Coastal Resource Management post-hurricane recovery project.

Massachusetts Land Cover and Change Data—2000

www.csc.noaa.gov/crs/lca/mass.html

This project mapped terrestrial land cover in coastal watershed environments and identified changes in these areas that occurred between 1991 and 1997. The project relied on satellite multispectral imagery as the primary information source. These data were used to distinguish major land cover classes, and previous images were studied to locate areas that changed over time. For this project, the data were acquired according to the Center's Coastal Change Analysis Program (C-CAP) methods.

Needs Assessment Training—2000

Waquoit Bay National Estuarine Research Reserve (NERR) served as the local host for a two-day workshop that focused on methods and tools to assess the needs of a target audience. Participants included representatives from regional NERRs, Sea Grant, state coastal programs, National Marine Sanctuaries, and other local partners. Networking and resource sharing opportunities were additional benefits of this workshop.

Nonpoint Pollution Reduction in Waquoit Bay—1996 to 1998

The Massachusetts Coastal Zone Management Office and Waquoit Bay National Estuarine Research Reserve (NERR) developed indices of actual and potential ecological damage from nonpoint source pollutants, applied those indices throughout the Waquoit Bay watershed, and transferred results of their study to local managers through a workshop. This work was funded by a grant from the Center.

Ocean Color Applications Project—1999

Through this project, processing and classification techniques were developed to evaluate coastal water quality and biological and geologic variables based on remote sensing data from satellite or aircraft. Data on the bio-optical characteristics of diverse U.S. coastal waters were collected. These data are used to validate satellite measurements used for ocean color data products.

Protected Areas GIS (PAGIS)

www.csc.noaa.gov/pagis/

The PAGIS project brought compatible geographic information systems (GIS), geographic data management, and Internet capabilities to each of the nation's 25 Estuarine Research Reserves and 13 Marine Sanctuaries. Through PAGIS, the reserves and sanctuaries also developed advanced data sets, underwent extensive training, and found innovative ways to make the most effective use of their new data and technological capabilities.

Public Issues and Conflict Management—2001

The Massachusetts Institute of Technology (MIT) Sea Grant College Program served as the local host for this three-day workshop, which taught skills in meeting management and planning, collaborative processes and decision making, and media relations. Participants included staff members from the MIT Sea Grant College Program, coastal zone management program, New England Fisheries Management Council, National Marine Fisheries Service, the New England Aquarium, and other state agencies and organizations.

Topographic Change Mapping—1998, 2000

www.csc.noaa.gov/lidar/

High-resolution Light Detection and Ranging (LIDAR) measurements of coastal beach topography were made during 1998 and 2000. These measurements can be used for beach change studies and are available to the public.

Wellfleet Harbor Mapping Project—2002, 2003

Funding for this project supports a temporary staff position to create an electronic database containing the location of natural and man-made features in Wellfleet Harbor. Ultimately, this database will be used to generate maps in a geographic information system (GIS) that will be used for managing harbor resources and will form the foundation of a comprehensive GIS database.